



ICAO ENGINE EXHAUST EMISSIONS DATA SHEET

SUBSONIC ENGINES

ENGINE IDENTIFICATION: CF34-10E5A1
UNIQUE ID NUMBER: 11GE144
COMBUSTOR: 2253M21-PFN
ENGINE TYPE: TF

BYPASS RATIO: 5.1
PRESSURE RATIO (π_{00}): 27.2
RATED THRUST (F_{00}) (kN): 83.7

REGULATORY DATA

CHARACTERISTIC VALUE:	HC	CO	NO _x	SMOKE NUMBER
D _p /F ₀₀ (g/kN) or SN	10.5	88.9	44.5	16.4
AS % OF ORIGINAL LIMIT	53.4	75.3	47.1	66.0
AS % OF CAEP/2 LIMIT (NO _x)			58.9	
AS % OF CAEP/4 LIMIT (NO _x)			69.9	
AS % OF CAEP/6 LIMIT (NO _x)			78.0	
AS % OF CAEP/8 LIMIT (NO _x)			92.0	

DATA STATUS

- PRE-REGULATION
x CERTIFICATION
- REVISED (SEE REMARKS)

TEST ENGINE STATUS

- NEWLY MANUFACTURED ENGINES
x DEDICATED ENGINES TO PRODUCTION STANDARD
- OTHER (SEE REMARKS)

EMISSIONS STATUS

x DATA CORRECTED TO REFERENCE
(ANNEX 16 VOLUME II)

CURRENT ENGINE STATUS

(IN PRODUCTION, IN SERVICE UNLESS OTHERWISE NOTED)
x OUT OF PRODUCTION (DATE: -)
- OUT OF SERVICE (DATE: -)

MEASURED DATA

MODE	POWER SETTING (%F ₀₀)	TIME (minutes)	FUEL FLOW (kg/s)	HC	CO	NO _x	SMOKE NUMBER
TAKE-OFF	100	0.7	0.870	0.05	0.89	19.68	12.7
CLIMB OUT	85	2.2	0.717	0.09	0.77	16.22	6.9
APPROACH	30	4.0	0.239	0.10	4.02	7.94	0.1
IDLE	7	26.0	0.088	4.02	41.73	3.69	0.5
LTO TOTAL FUEL (kg) or EMISSIONS (g)			326	568	6067	3214	-
NUMBER OF ENGINES				1	1	1	1
NUMBER OF TESTS				3	3	3	3
AVERAGE D _p /F ₀₀ (g/kN) or AVERAGE SN (MAX)				6.8	72.5	38.4	12.7
SIGMA (D _p /F ₀₀ in g/kN, or SN)				0.7	2.5	0.2	1.5
RANGE (D _p /F ₀₀ in g/kN, or SN)				6.3-7.6	70-75	38.2-38.7	11.6-14.4

ACCESSORY LOADS

POWER EXTRACTION 0 (kW)
STAGE BLEED 0 (% CORE FLOW)

AT All POWER SETTINGS
AT All POWER SETTINGS

ATMOSPHERIC CONDITIONS

BAROMETER (kPa)	97.2-97.9
TEMPERATURE (K)	292-298
ABS HUMIDITY (kg/kg)	0.0053-0.0078

FUEL

SPEC	Jet A-1
H/C	1.92
AROM (%)	15.9-17.5

MANUFACTURER: General Electric Company
TEST ORGANIZATION: Peebles Test Operation
TEST LOCATION: Site 3C
TEST DATES: 05/06/2009-06/06/2009

NO_x REGULATION PARAGRAPH

	2.3.2 c) (CAEP/4)
	2.3.2 d) (CAEP/6)
x	2.3.2 e) (CAEP/8)

REMARKS

1. GE Report R2008AE622Block 2 Engines
2. Engine 994-743/1
3. Engines with 2251M21 combustor or equivalent
4. Alternate fuel injector manufacturer
5. Certification in accordance with Part III, Chapter 2, of Amendment 7 of ICAO Annex 16 Vol. II.
6. NO_x levels in accordance with Part III, Chapter 2, 2.3.2 e)

Compliance with Fuel Venting requirements:

x ('x' if complies, 'PR' if pre-regulation, '-' if information is not available)